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EXAMINER	
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ART UNIT	**PAPER NUMBER**
3735	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/824,941	LEE ET AL.	
	Examiner	Art Unit	
	Anita Saidi	3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-48,50-81 and 83-86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9-48, 50-81, and 83-86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to applicant's arguments filed on January 14, 2008. Examiner acknowledges the amendments to claims 1, 9, 38, 50 and 81 and cancellation of claims 8, 49 and 82. Currently claims 1-7, 9-48, 81 and 83-86 are pending.

Response to Arguments

2. Applicant's arguments, see page 14, line 24-page 15, line 3, filed on January 14, 2008, with respect to objection to claims 81-86 as to invoking 35 USC § 112, sixth paragraph have been fully considered and are persuasive. The objection of claims 81-86 has been withdrawn. Applicant also argues that the reason for allowance is based of an erroneous interpretation of the claim and the examiner agrees. In light of the new interpretation claim 51 has been rejected.

3. Applicant's arguments, see page 15, lines 5-23, filed on January 14, 2008, with respect to the rejection(s) of claim(s) 1-4, 6-7, 22-24, 28-29 and 30-37 under 35 USC c 102(e) as being anticipated by US 2004/0102814 to Sorenson have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of amended claims and newly found prior art.

4. Applicant's arguments, see page 15, line 24 - page 16, line 16, filed on January 14, 2008, with respect to the rejection(s) of claim(s) 1 and 8-9 under 35 USC § 102(b)

as being anticipated by US 6,890,306 to Poezevera have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of amended claims and newly found prior art.

5. Applicant's arguments, see page 16, line 18 - page 17, line 12, filed on January 14, 2008, with respect to the rejection(s) of claim(s) 38, 49-50, 65-66, 68-70, 73-77 and 81-83 under 35 USC § 102(b) as being anticipated by US 6,928,324 to Park et al have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of amended claims and newly found prior art.

6. Applicant's arguments filed on January 14, 2008 have been fully considered but they are not persuasive.

Applicant argues that since claims 1, 38 and 81 have been amended the rejections under 35 USC § 103(a) are moot and should be withdrawn; however the examiner respectfully disagrees. Cho '839 teaches that the computational circuitry detects an onset of sleep in the patient when the deviation of the minute ventilation values from the central tendency is less than a predetermined minute ventilation threshold value, and signals the therapy component to modify the therapy when the onset of sleep is detected in the patient (¶ [0020] of Cho '839). The minute ventilation (MV) histogram will also display the onset of sleep and the MV threshold (Fig. 6 of Cho

‘839). The new limitations in the amended claims have been addressed in the rejections bellow.

Note: Definition of the limitation “symbol” according to free dictionary.com is as indicated bellow:

1. something used for or regarded as representing something else; a material object representing something, often something immaterial; emblem, token, or sign.

2. A letter, figure, or other character or mark or a combination of letters or the like used to designate something: the algebraic symbol x; the chemical symbol Au.

3. a word, phrase, image, or the like having a complex of associated meanings and perceived as having inherent value separable from that which is symbolized, as being part of that which is symbolized, and as performing its normal function of standing for or representing that which is symbolized: usually conceived as deriving its meaning chiefly from the structure in which it appears, and generally distinguished from a sign.

For the purpose of art rejection the first definition has been considered.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-4, 6-7, 9-12, 16-17, 22-24, 28-29, 30-38 and 73-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/010102814 to Sorenson et al (Hereinafter "Sorenson") in view of US 5,860,918 to Schradi et al (Hereinafter "Schradi").

In reference to claims 1-3 and 38:

Sorenson teaches:

A method and system for characterizing respiration of a patient which comprises a respiration waveform sensor (108 of Sorenson) configured to acquire a respiration waveform (184 & ¶ [0013] of sorenson). A respiration processor (112 of Sorenson) is used which will detect one or more characteristics associated with the respiration (¶ [0050] of Sorenson). A waveform generator (162 and 150 and Fig. 3 and of Sorenson) is coupled to the respiration waveform in order to generate a marked respiration waveform using the respiration waveform and one or more symbols indicating the one or more characteristics associated with the respiration (Fig. 4 of Sorenson). At least one of acquiring, detecting, and generating is performed implantably (Fig. 1 and ¶ [0068] of Sorenson).

However Sorenson fails to teach that:

> A trigger circuit is used to detect a triggering event. The waveform is generated in response to the triggering event.

Schradi teaches that:

> A medical monitoring device and the method of use which monitors physiological parameters of a patient. If the presence of an event is detected, recorded parameter values as well as the respective time at which the event was detected are stored in the memory (Abstract of Schradi). The time at which the event occurs is marked in the review or trend representation section; this will enable the physician to have the real time data (Col. 1, lines 25-40 of Schradi). Events such as apnea are monitored (Col. 6, lines 15-18 of Schradi). The storage means stores the data in response to the occurrence of an event in a predetermined time window before and after the time at which the event has been detected (Col. 2, lines 24-27 of Schradi).

Therefore it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have modified the physiological programmer system of Sorenson to incorporated the method for reviewing a patient's physiological parameters of Schradi in order to represent a real time report data associated with an event for the physician without compressing the collected data and any dada loss.

In reference to claim 4:

Acquiring the respiration waveform comprises sensing transthoracic impedance (Fig 3 and ¶ [0022] of Sorenson).

In reference to claim 6:

Detecting the one or more characteristics associated with the respiration comprises detecting one or more physiological conditions (detecting sleep apnea , Col. 4, lines 6-9 of Schradi and ¶ [0007] of Sorenson).

In reference to claim 7:

Detecting the one or more characteristics associated with the respiration comprises detecting one or more non-physiological conditions (¶ [0029] of Sorenson).

In reference to claim 9:

The triggering event comprises a disordered breathing event (Sleep apnea, Col. 4, lines 6-9 of Schradi).

In reference to claim 10:

Detecting the one or more characteristics associated with the respiration comprises detecting one or more characteristics associated with disordered breathing (detecting if the patient's respiratory standstill exceeds a

predetermined period of time, Col. 6, lines 15-18 of Schradi).

In reference to claim 11:

Detecting the one or more characteristics associated with the disordered breathing comprises detecting duration of the disordered breathing (Col. 2, lines 32-38 of Schradi).

In reference to claims 12, 16-17 and 50-51:

The respiratory processor comprises a disordered breathing processor (the microcontroller comprises a arrhythmia detection section as well as a morphology detection section, Fig. 2 of Sorenson and 100 of Schradi) which is configure to detect the one or more characteristics associated with the disordered breathing comprises determining a type of the disordered breathing, such as sleep disordered breathing (Col. 4, lines 6-9 of Scradi)

In reference to claim 22:

Detecting the one or more characteristics associated with the respiration comprises determining respiration rate (¶ [0007] and ¶ [0029] of Sorenson).

In reference to claim 23:

Detecting the one or more characteristics associated with the respiration comprises determining respiration volume (¶ [0029] of Sorenson).

In reference to claim 24:

Detecting the one or more characteristics associated with the respiration comprises determining minute ventilation (¶ [0047] of Sorenson).

In reference to claims 30 and 75:

Acquiring one or more additional waveforms (Fig. 4 of Sorenson and Fig. 2 of Schradi), where generating the marked respiration waveform comprises generating the marked respiration waveform using the one or more additional waveforms (¶ [0065] of Sorenson and Fig. 3A of Schradi).

In reference to claim 31:

Generating the marked respiration waveform using the one or more additional waveforms comprises time aligning the respiration waveform and the one or more additional waveforms (Fig. 2 and Fig. 4 of Schradi).

In reference to claims 32, 34 and 76-77:

Acquiring the one or more additional waveforms comprises acquiring a physiological waveform, such as cardiac waveform (Fig. 4 of Schradi and Fig. 4 of Sorenson).

In reference to claim 33:

Acquiring the one or more additional waveforms comprises acquiring a non-physiological waveform (¶ [0029] and ¶ [0054] of Sorenson).

In reference to claim 35:

Transmitting information about at least one of the respiration waveform, the one or more characteristics associated with the respiration, and the marked respiration waveform (¶ [0015] of Sorenson).

In reference to claim 36:

Displaying the marked respiration waveform (Figs. 2 and 4 of Schradi and Fig. 4 of Sorenson).

In reference to claim 37:

Storing information about at least one of the respiration waveform, the one or more characteristics associated with the respiration, and the marked respiration waveform (¶ [0013] of Sorenson and Col. 4, lines 45-50 of Schradi).

In reference to claims 28-29 and 73-74:

Generating the marked respiration waveform comprises aligning the one or more symbols relative to the respiration waveform, such as aligning a particular symbol relative to the respiration waveform to indicate a time of occurrence of a

particular respiration characteristic (506 and Figs. 5A-5D of Schradi).

9. Claims 5, 13-15 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorenson in view of Schradi as applied to claim 1 above, and further in view of US 5,540,732 to Testerman et al (Hereinafter "Testerman").

In reference to claim 5:

Sorenson as modified by Schradi teaches all of the claim limitations; see the rejection of claim 1 above.

However, the combination fails to teach that:

Acquiring the respiration waveform comprises sensing airflow.

Testerman teaches:

A method and apparatus for impedance detecting and treating of obstructive airway disorders, which comprises acquiring a respiration waveform (Col. 2, lines 47-50 & Figs. 2a-2c of Testerman) and detecting one or more characteristics associated with the respiration (32, 33,34,110, 112, 113 & 114 of Testerman). The respiration waveform is acquired by sensing airflow (Fig. 2 b & Col. 4, lines 25-30 of Testerman).

It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have measured the subject's airflow similar to the method taught by Testerman as part of the steps of

detecting a breathing disorder in the physiological programmer of Sorenson as modified by Schradi.

In reference to claims 13-15:

The type of the disordered breathing comprises obstructive disordered breathing or mixed central and obstructive disordered breathing (Col. 1, lines 21-30 and Col. 2, lines 54-58 of Testerman).

In reference to claims 25-27:

Detecting the one or more characteristics associated with the respiration comprises determining one or more morphological features of the respiration waveform, such as determining one or both of an inspiration duration (Col. 4, lines 16-25 of Testerman) and an expiration duration or an expiration slope and an inspiration slope (Col. 6, lines 13-28 of Testerman).

10. Claims 1, 5, 10-12, 14-17 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Testerman in view of US Pub. No. 2002/0193839 to Cho et al (Hereinafter "Cho '839").

In reference to claims 1 and 5:

Testerman teaches:

A method and apparatus for impedance detecting and treting of

obstructive airway disorders, which comprises acquiring a respiration waveform (Col. 2, lines 47-50 & Figs. 2a-2c of Testerman) and detecting one or more characteristics associated with the respiration (32, 33,34,110, 112, 113 & 114 of Testerman). At least one of acquiring, detecting, and generating is performed implantably (Col. 2, lines 54-67 of Testerman).The respiration waveform is acquired by sensing airflow (Fig. 2 b & Col. 4, lines 25-30 of Testerman).

However, Testerman fails to teach that:

Detecting a triggering event and generating a marked respiration waveform using the respiration waveform in response to the triggering event. Using one or more symbols indicating the one or more characteristics associated with the respiration.

Cho '839 teaches:

An implantable medical device that includes a therapy component. Minute ventilation sensing circuit, and computational circuitry coupled to the therapy component and the minute ventilation sensing circuit. The minute ventilation sensing circuit produces minute ventilation values indicative of a minute ventilation of the patient at time intervals. The computational circuitry detects an onset of sleep in the patient when the deviation of the minute ventilation values from the central tendency is less than a

predetermined minute ventilation threshold value, and signals the therapy component to modify the therapy when the onset of sleep is detected in the patient (¶ [0020] of Cho '839). The minute ventilation (MV) histogram will also display the onset of sleep and the MV threshold (Fig. 6 of Cho '839). Cho '839 also discloses forming a histogram of the deviations of the minute ventilation values received during the time intervals from the central tendencies; locating a pair of peaks in the histogram; and selecting an minute ventilation value residing between the peaks in the histogram as the minute ventilation threshold value (Claim 23 and Figs. 6 and 7 of Cho '839), Cho '839 also discloses that the histograms are stored in the CPU (204 of Cho '839) which is in communication with the programming unit (112 of Cho '839). The present invention claims that the marked waveform is generated but not displayed, and the system of Cho '839 is capable of performing the same (¶ [0068]).

Therefore it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to have included the markers and descriptions similar to that of Cho '839 to the implanted impedance sensing circuit of Testerman in order to add more information to the displayed respiratory graphs so that the sleep apnea diagnosis and study would be easier.

In reference to claims 10 -12 & 14 -17:

Detecting one or more characteristics associated with disordered breathing (Abstract of Testerman), detecting a duration of the disordered breathing (Fig. 4C of Testerman) and determining a type of the disordered breathing (Col. 1, lines 21-30 & Col. 2, lines 54-58 of Testerman).

In reference to claims 25-27:

The detecting the one or more characteristics associated with the respiration comprises determining one or more morphological features of the respiration waveform, comprises determining one or both of inspiration duration and expiration duration (Col. 4, lines 16-25 of Testerman) and determining one or both of an expiration slope and an inspiration slope (Col. 6, lines 13-28 of Testerman).

11. Claims 1, 10, 12-21, 38-42,44,46-48, 52-64, 67, 71-72, 78, 80-81, 83- 84 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,641,542 to Cho et al (Hereinafter "Cho '542") in view of US 2002/0193839 to Cho et al (Hereinafter "Cho '839").

In reference to claim 1:

Cho '542 teaches:

A method and apparatus for detecting and treating sleep respiratory

events which comprises acquiring a respiration waveform (Col. 7, lines 2-3 of Cho ‘542). Detecting one or more characteristics associated with the respiration (Col. 7, lines 33-40 of Cho ‘542); where at least one of acquiring, detecting, and generating is performed at least in part implantably (Fig. 2 of Cho ‘542).

However, Cho ‘542 fails to teach that:

Detecting a triggering event and generating a marked respiration waveform using the respiration waveform in response to the triggering event. Using one or more symbols indicating the one or more characteristics associated with the respiration.

Cho '839 teaches:

An implantable medical device that includes a therapy component, a minute ventilation sensing circuit, and computational circuitry coupled to the therapy component and the minute ventilation sensing circuit. The minute ventilation sensing circuit produces minute ventilation values indicative of a minute ventilation of the patient at time intervals. The computational circuitry detects an onset of sleep in the patient when the deviation of the minute ventilation values from the central tendency is less than a predetermined minute ventilation threshold value, and signals the therapy component to modify the therapy when the onset of sleep is detected in the patient (¶ [0020] of Cho '839). The minute

ventilation (MV) histogram will also display the onset of sleep and the MV threshold (Fig. 6 of Cho '839). Cho '839 also discloses forming a histogram of the deviations of the minute ventilation values received during the time intervals from the central tendencies; locating a pair of peaks in the histogram; and selecting an minute ventilation value residing between the peaks in the histogram as the minute ventilation threshold value (Claim 23 and Figs. 6 and 7 of Cho '839), Cho '839 also discloses that the histograms are stored in the CPU (204 of Cho '839) which is in communication with the programming unit (112 of Cho '839). The present invention claims that the marked waveform is generated but not displayed, and the system of Cho '839 is capable of performing the same (¶ [0068]).

Therefore it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to have included the markers and descriptions similar to that of Cho '839 to the implanted impedance sensing circuit of Cho '542 in order to add more information to the displayed respiratory graphs so that the sleep apnea diagnosis and study would be easier.

In reference to claims 38-40, 81 and 83:

Cho '542 teaches:

An apparatus for detecting and treating sleep respiratory events which comprises a respiration waveform sensor (210 & 510-2 of Cho '542) that is configured to acquire a respiration waveform. A respiration processor (310 of Cho '542) is configured to determine one or more characteristics associated with the respiration (¶ [0034] of Cho '542). A waveform generator (420) is coupled to the respiration waveform sensor and the respiration processor. The waveform generator configured to generate a marked respiration waveform comprising the respiration waveform and symbols indicating the one or more characteristics associated with the respiration (Col. 8 ,lines 46-55 of Cho '542), where at least one of the respiration waveform sensor the respiration processor and the waveform generator comprises an implantable component (Col. 3, lines 15-23 of Cho '542).

However, Cho ’542 fails to teach that:

A triggering circuit is configured to detect a triggering event and a marked respiration waveform is generated using the respiration waveform in response to the triggering event. Using one or more symbols indicating the one or more characteristics associated with the respiration.

Cho '839 teaches:

An implantable medical device that includes a therapy component,

a minute ventilation sensing circuit, and computational circuitry coupled to the therapy component and the minute ventilation sensing circuit. The minute ventilation sensing circuit produces minute ventilation values indicative of a minute ventilation of the patient at time intervals. The computational circuitry detects an onset of sleep in the patient when the deviation of the minute ventilation values from the central tendency is less than a predetermined minute ventilation threshold value, and signals the therapy component to modify the therapy when the onset of sleep is detected in the patient (¶ [0020] of Cho '839). The minute ventilation (MV) histogram will also display the onset of sleep and the MV threshold (Fig. 6 of Cho '839). Cho '839 also discloses forming a histogram of the deviations of the minute ventilation values received during the time intervals from the central tendencies; locating a pair of peaks in the histogram; and selecting an minute ventilation value residing between the peaks in the histogram as the minute ventilation threshold value (Claim 23 and Figs. 6 and 7 of Cho '839), Cho '839 also discloses that the histograms are stored in the CPU (204 of Cho '839) which is in communication with the programming unit (112 of Cho '839). The present invention claims that the marked waveform is generated but not displayed, and the system of Cho '839 is capable of

performing the same (¶ [0068]).

Therefore it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to have included the markers and descriptions similar to that of Cho '839 to the implanted impedance sensing circuit of Cho '542 in order to add more information to the displayed respiratory graphs so that the sleep apnea diagnosis and study would be easier.

In reference to claim 41:

At least one of the respiration waveform sensor, the respiration processor, and the waveform generator are wirelessly coupled to an external device (350 of Cho '542).

In reference to claim 42:

A component of at least one of the respiration waveform sensor, the respiration processor, and the waveform generator is mechanically coupled to a cardiac rhythm management device (Fig. 1 of Cho '542).

In reference to claim 44:

The respiration waveform sensor comprises a transthoracic impedance sensor (510-2 of Cho '542).

In reference to claim 46:

Sensing system configured to sense one or more conditions associated with the respiration (Col. 8, lines 46-80 of Cho '542).

In reference to claim 47:

The sensing system comprises a physiological sensor (530 & 540 of Cho '542).

In reference to claim 48;

The sensing system comprises a non-physiological, sensor (520 of Cho '542).

In reference to claim 52:

The one or more characteristics associated with the respiration comprises oxygen de-saturation (530 of Cho '542).

In reference to claim 53:

The one or more characteristics associated with the respiration comprise one or more characteristics of a pulmonary disease (Col. 7, lines 33-46 of Cho '542).

In reference to claims 10 and 54:

The one or more characteristics associated with the respiration comprise a type of disordered breathing (410 & 420 of Cho '542).

In reference to claims 12-21 and 55-63:

The type of the disordered breathing comprises central & obstructive disordered breathing; mixed central and obstructive disordered breathing; hypopnea; Cheyne-Stokes respiration; periodic breathing; sleep disordered breathing (Col. 1, lines 24-53 & Col. 6, lines 52-65 & 410 & 420 of Cho '542).

In reference to claim 64:

The one or more characteristics associated with the respiration comprises a duration of disordered breathing (Col. 3, lines 24-30 of Cho '542).

In reference to claim 67:

The one or more characteristics associated with the respiration comprises minute ventilation (Col. 7, lines 33-46 of Cho '542).

In reference to claims 71 and 72:

The respiration processor is configured to detect the one or more characteristics associated with the respiration based on physiological conditions or contextual conditions (Col. 8, lines 3-19 of Cho '542).

In reference to claims 78 and 84:

A communication device configured to transmit information about at least one of the respiration waveform, the one or more characteristics associated with the

respiration, and the marked respiration waveform (telemetry interface 350 of Cho '542).

In reference to claims 80 and 86:

A memory configured to store information about at least one of the respiration waveform, the one or more characteristics associated with the patient respiration, and the marked respiration waveform (memory unit 330 of Cho '542).

12. Claims 43, 45, 79 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cho '542 in view of Cho '839 as applied to claims 38 and 81 above, and further in view of US 6,770,022 to Mechlenburg et al (Hereinafter "Mechlenburg")..

In reference to claims 43, 45, 79 and 85:

Cho '542 as modified by Cho '839 teaches all of the claim limitations; see the rejection of claims 38 & 81 above.

However, the combination fails to teach that;

component of at least one of the respiration waveform sensor, the respiration processor, and the waveform generator is mechanically coupled to a positive airway pressure device, and the respiration waveform sensor comprises an airflow sensor. A display is configured to display the marked respiration waveform.

Mechlenburg teaches:

A device and method for magnetic stimulation of muscles for the diagnosis and relief of a breathing disorder, such as obstructive sleep apnea. The input signal indicative of the condition of a patient can be provided to a display device (Col. 5, lines 52-65 of Mechlenburg). Using the magnetic stimulating system in conjunction with a conventional pressure support system that applies positive air pressure at the mouth and/or nose of the patient (Col. 15, lines 58-67 & Col. 19, lines 38-49 of Mechlenburg). The onset of an upper airway event can be detected using an airway sensor (Col.8, lines 17-25 of Mechlenburg).

Therefore it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to have included the display system, airway sensor and the positive pressure control system of Mechlenburg in the sleep respiration treatment system of Cho '542 as modified by Cho '839 in order to display the signals for monitoring the patients conditions and measuring the airway pressure and positive pressure control system as part of the diagnosis and treatment of breathing disorders, as it has been explicitly taught by Mechlenburg.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita Saidi whose telephone number is (571)270-3001. The examiner can normally be reached on Monday-Friday 9:30 am - 6:00 pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Navin Natnithithadha/
Examiner, Art Unit 3735
5/12/2008

/A. S./
Examiner, Art Unit 3735
5/17/2008